EXHIBIT 2

"Claims as presented via the
June 21, 2007 amendment in
U.S. Application No. 10/812,177"

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as First Class Mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Dated: June 21, 2007 Signature: (Andrew T. Zidel)

Docket No.: SCEI 3.0-170
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Keisuke Inoue	
Application No.: 10/812,177	Group Art Unit: 2128
Filed: March 29, 2004	Examiner: S.A. Alhija
For: METHODS AND APPARATUS FOR ACHIEVING THERMAL MANAGEMENT USING PROCESSING TASK SCHEDULING	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT PURSUANT TO 37 C.F.R. § 1.111

Dear Sir:

In response to the Office Action mailed May 3, 2007, applicant submits the following amendments and remarks.

IN THE CLAIMS

1. (currently amended) A method of scheduling operations to be performed by a component having a thermal threshold comprising:

providing a plurality of operations to be performed by the component;

associating the operations with a thermal attribute, the thermal attribute representing a value related to a heat amount expected to be generated or incurred by the component during performance of the operations; ~~and~~

determining a cooling attribute;

scheduling the operations in an order of performance based on the thermal attribute and the cooling attribute so that the thermal threshold is not exceeded; and

generating the order of performance for use in execution of the operations.

2. (Original) The method of claim 1, further comprising measuring the thermal attribute with a temperature sensing means.

3. (Original) The method of claim 1, further comprising estimating the thermal attribute based upon power consumption of the component.

4. (Original) The method of claim 3, wherein estimating the thermal attribute further includes performing a circuit simulation of the component.

5. (Original) The method of claim 3, wherein estimating the thermal attribute further includes determining a power density of the component.

6. (Original) The method of claim 1, further comprising the component executing the operations in the order of performance.

7. (Original) The method of claim 6, wherein the component includes a plurality of processing devices and the thermal attribute is an aggregate thermal attribute of selected ones of the processing devices that execute the operations.

8. (Original) The method of claim 1, wherein the component includes a plurality of processing devices, each of the processing devices has an individual thermal threshold, and the thermal attribute includes a plurality of individual thermal attributes, each individual thermal attribute being associated with one of the processing devices.

9. (Original) The method of claim 8, further comprising:

selecting at least some of the processing devices to execute the operations;

monitoring the selected processing devices; and

routing the operations among the selected processing devices so that the individual thermal thresholds are not exceeded.

10. (Original) The method of claim 1, wherein the component includes a plurality of processing devices and the thermal attribute is allocated among the plurality of processing devices.

11. (Original) The method of claim 1, further comprising determining the thermal attribute by:

(i) determining power consumption of the component;

(ii) determining a footprint of the component;

(iii) dividing the power consumption of the component by the footprint of the component to obtain per-area power consumption; and

(iv) multiplying the per-area power consumption by a thermal estimation constant.

12. (cancelled)

13. (Original) A thermal scheduling method, comprising:

obtaining program code including a series of operations;

determining thermal attributes associated with one or more of the operations;

determining a thermal threshold for a component; and

scheduling the operations for execution by the component in accordance with the thermal attributes so that the thermal threshold is not exceeded.

14. (Original) The method of claim 13, wherein the thermal attributes account for an amount of heat expected to be generated as the component executes a selected operation.

15. (Original) The method of claim 13, wherein the thermal attributes account for an amount of heat generated over a period of time.

16. (Original) The method of claim 13, wherein the thermal attributes account for at least one of power consumption of the component and power density of the component.

17. (Original) The method of claim 13, further comprising:

the component executing the operations;

monitoring the temperature of the component during execution; and

rescheduling the operations if the thermal threshold is exceeded.

18. (Original) The method of claim 13, further comprising estimating the thermal attributes by counting the number of tasks to be performed in each of the operations.

19. (Original) The method of claim 13, wherein the component includes a plurality of processing devices, the method further comprising:

monitoring a dynamic execution of selected ones of the operations by selected ones of the processing devices;

determining an operational frequency of the selected processing devices; and

reporting the operational frequency of the selected processing devices to a compiler.

20. (Original) The method of claim 13, further comprising:

determining a cooling attribute for a computing device, the computing device including the component;

wherein scheduling the operations is performed in accordance with the cooling attribute and the thermal attribute.

21. (Original) The method of claim 20, wherein the cooling attribute is based on a type of packaging of the computing device.

22. (Original) The method of claim 21, wherein the cooling attribute is further based on a cooling means of the computing device.

23. (Original) The method of claim 22, wherein:

if the cooling means has one state, the cooling attribute is fixed; and

if the cooling means has multiple states, the cooling attribute is dynamic.

24. (currently amended) A processing system comprising:

a computing device including a component;

a plurality of operations to be performed by the component, at least some of the operations including a priority; ~~and~~

at least one thermal attribute associated with the component and a selected one of the operations, the thermal attribute being indicative of a change in temperature of the component after performance of the selected operation;

a plurality of priority queues, each priority queue including a first queue and a second queue, the first queue for storing a first set of the operations and the second queue for storing a second set of the operations; and

a scheduler operable to assign at least one of the operations to the component depending on the thermal attribute.

25. (cancelled)

26. (currently amended) The processing system of claim ~~25~~24, wherein the scheduler is operable to retrieve a chosen one of the operations from a storage location depending upon the thermal attribute.

27. (currently amended) The processing system of claim ~~25~~24, wherein the component includes a plurality of sub-components, the scheduler is a simple scheduler, and the thermal

attribute is a total thermal attribute associated with the component and not associated with the plurality of sub-components.

28. (currently amended) The processing system of claim ~~25~~24, wherein the component includes a plurality of sub-components, the scheduler is an advanced scheduler, and the thermal attribute is further associated with at least some of the sub-components.

29. (currently amended) The processing system of claim ~~25~~24, wherein the component is a processing device and the scheduler is integrated with the processing device.

30. (Original) The processing system of claim 24, wherein the selected operation comprises a task, and the thermal attribute is a task thermal attribute.

31. (Original) The processing system of claim 30, wherein the task thermal attribute is based on at least one of an operating frequency of the component, a thermal attribute of the component, and a cooling attribute.

32. (cancelled)

33. (currently amended) The processing system of claim ~~32~~24, further comprising a scheduler operable to assign at least some of the operations to either the first or the second queue in a selected one of the priority queues based on the priorities of the operations and on the thermal attribute.

34. (Original) The processing system of claim 33, wherein the scheduler is further operable to retrieve a chosen one of the operations from the first queue or the second queue of the

selected priority queue depending upon the thermal attribute and the priority of the chosen operation.

35. (Original) A processing system, comprising:

a first operation having a first thermal attribute exceeding an operating threshold;

a second operation having a second thermal attribute not exceeding the operating threshold;

a scheduler for managing a plurality of operations comprising the first and second operations based on the thermal attributes; and

a plurality of processors for executing the plurality of operations, each of the plurality of processors having a thermal threshold.

36. (Original) The processing system of claim 35, wherein if the thermal threshold of a selected one of the plurality of processors is not exceeded, the selected processor is operable to obtain and execute at least one of the first operation and the second operation.

37. (Original) The processing system of claim 36, wherein, if the thermal threshold of the selected processor is not exceeded, the selected processor obtains the first operation.

38. (Original) The processing system of claim 35, wherein, if the thermal threshold of a selected one of the plurality of processors is exceeded, the selected processor is operable to obtain and execute the second operation.

39. (Original) The processing system of claim 35, wherein the processors include temperature sensing means for monitoring or estimating temperatures of the processors.

40. (Original) The processing system of claim 39, wherein each processor further includes an analog to digital converter that is operable to receive a temperature value from the temperature sensing means and to provide a digital temperature value.

41. (Original) The processing system of claim 35, wherein a selected one of the processors includes a plurality of sub-processors.

42. (Original) The processing system of claim 41, wherein the selected processor has a total thermal attribute associated with the selected processor and not associated with the sub-processors.

43. (Original) The processing system of claim 41, wherein each sub-processor has a component thermal attribute distinct from the component thermal attributes of the other sub-processors.

44. (Original) A method of performing operations in a computing environment, comprising:

storing a first operation based upon a thermal attribute of the first operation;

storing a second operation based upon a thermal attribute of the second operation; and

retrieving at least one of the first and the second operations depending upon a thermal threshold of a processor.

45. (Original) The method of claim 44, wherein, if the thermal threshold of the processor is not exceeded, at least one of the first operation and the second operation is retrieved.

46. (Original) The method of claim 45, wherein only the first operation is retrieved.

47. (Original) The method of claim 44, wherein if the thermal threshold of the processor is exceeded, the second operation is retrieved.

48. (Original) The method of claim 44, further comprising:

determining a priority of the first operation;

determining a priority of the second operation; and

providing a plurality of priority queues, each of the priority queues including a first queue and a second queue;

wherein the first operation is stored in one of the first queues based upon the priority of the first operation, and the second operation is stored in one of the second queues based upon the priority of the second operation.

49. (Original) The method of claim 44, further comprising:

associating a component thermal attribute with the processor;

wherein retrieving the at least one operation further includes evaluating a current state of the component thermal attribute and selecting the at least one operation based upon the component thermal attribute.

50. (Original) A method of performing operations in a computing environment, comprising:

determining if a temperature of a processor exceeds a thermal threshold; and

(i) if the thermal threshold is not exceeded:

determining if a first operation is available, the first operation being likely to maintain or increase the temperature of the processor upon execution; and

if the first operation is available, executing the first operation;

(ii) if the thermal threshold is exceeded:

determining if a second operation is available, the second operation being likely to decrease the temperature of the processor upon execution; and

if the second operation is available, executing the second operation.

51. (Original) The method of claim 50, further comprising performing a nop if the second operation is not available.

52. (Original) The method of claim 50, further comprising:

determining a priority level;

determining if the first operation is available from a priority queue of the priority level; and

if the first operation is not available from the priority queue, determining if the second operation is available from the priority queue.

53. (currently amended) A processing apparatus for processing operations associated with thermal attributes, comprising:

a memory for storing a first operation and a second operation, the first operation having a thermal attribute

exceeding an operating threshold, and the second operation having a thermal attribute not exceeding the operating threshold; and

a plurality of processing devices for executing the first and second operations, at least a selected one of the processing devices comprising ~~a processing element, a processing unit or~~ a sub-processing unit, and at least some of the processing devices having a thermal threshold and access to the memory;

wherein, if the thermal threshold of the selected processing device is not exceeded, the selected processing device is operable to obtain the first operation from the memory for processing and to process the first operation, and

if the thermal threshold of the selected processing device is exceeded, the selected processing device is operable to obtain the second operation from the memory for processing and to process the second operation, and

wherein the memory comprises a local store in the sub-processing unit, and the local store includes a first queue for managing the first operation and a second queue for managing the second operation.

54. (Original) The processing apparatus of claim 53, wherein at least some of the processing devices are processing elements.

55. (Original) The processing apparatus of claim 54, wherein at least some of the processing elements further comprise at least one sub-processing unit.

56. (Original) The processing apparatus of claim 55, wherein each sub-processing unit includes a floating point unit,

an integer unit and a register associated with the floating point unit and the integer unit.

57. (Original) The processing apparatus of claim 56, wherein each sub-processing unit further includes a local store.

58. (Original) The processing apparatus of claim 54, wherein at least some of the processing elements further comprise a processing unit and a plurality of sub-processing units associated with the processing unit.

59. (Original) The processing apparatus of claim 58, wherein the sub-processing units each further include a local store.

60. (Original) The processing apparatus of claim 53, wherein a first one of the processing devices is operable to exchange operations with a second one of the processing devices depending upon the thermal threshold of the first processing device.

61-62. (cancelled)

63. (Original) The processing device of claim 53, wherein the first and second operations are maintained in the memory in a timesharing arrangement.

64. (Original) A processing apparatus for processing operations associated with thermal attributes, comprising:

first and second memories for storing first and second operations, the first operation having a thermal attribute exceeding an operating threshold, and the second operation having a thermal attribute not exceeding the operating threshold;

a plurality of processing devices for executing the first and second operations, at least a selected one of the processing devices comprising a processing element, a processing unit or a sub-processing unit, and at least some of the processing devices having a thermal threshold and access to the first and second memories;

wherein, if the thermal threshold of the selected processing device is not exceeded, the selected processing device obtains the first operation from either the first memory or the second memory for processing, and

if the thermal threshold of the selected processing device is exceeded, the selected processing device obtains the second operation from either the first memory or the second memory for processing.

65. (Original) A processing apparatus for processing operations associated with thermal attributes, comprising:

first and second memories for storing first and second sets of the operations, the first memory including a first queue for managing the first set of operations, the second memory including a second queue for managing the second set of operations, the first set of operations having thermal attributes exceeding an operating threshold, and the second set of operations having thermal attributes not exceeding the operating threshold;

a plurality of processing devices for executing the first and second sets of operations, at least a selected one of the processing devices comprising a processing element, a processing unit or a sub-processing unit, and at least some of the processing devices having a thermal threshold and access to the first and second memories;

wherein, if the thermal threshold of the selected processing device is not exceeded, the selected processing device obtains at least one of the first set of operations for processing, and

if the thermal threshold of the selected processing device is exceeded, the selected processing device obtains at least one of the second set of operations for processing.

66. (Original) A method of processing tasks comprising:

selecting one of a plurality of tasks for execution by a component based on an attribute, wherein the attribute for each task is related to the temperature of the component after execution of the associated task; and

executing the selected task.

67. (Original) The method of claim 66 wherein the attribute is related to an expected increase or decrease in temperature of the component after execution of the associated task.

68. (Original) The method of claim 67 wherein the expected increase or decrease is based on the power density of the component.

69. (Original) The method of claim 66 wherein the tasks are stored in at least one queue in memory.

70. (Original) The method of claim 66 wherein the tasks are stored in at least two queues in memory, one queue storing tasks whose attributes meet a condition and another queue storing tasks whose attributes do not meet the condition.

71. (Original) The method of claim 66 wherein the condition is that the attribute exceeds a threshold.

72. (Original) The method of claim 66 wherein the task is also selected based on the current temperature of the component.

73. (Original) The method of claim 66 wherein the tasks are stored in different addresses in memory prior to execution.

74. (Original) The method of claim 66 wherein the tasks are stored in the same address at different times in memory prior to execution.

75. (Original) The method of claim 66 wherein the component is a processor.

76. (Original) A system for processing tasks comprising:

memory for storing tasks to be processed;

a component that processes the tasks stored in the memory;

wherein the tasks are associated with attributes, the attribute for each task is related to the temperature of the component after processing the associated task, and one of the tasks is chosen for processing by the component based on the attribute.

77. (Original) system of claim 76 wherein the attribute is related to an expected increase or decrease in temperature of the component after processing of the chosen task.

78. (Original) The system of claim 77 wherein the expected increase or decrease is based on the power density of the component.

79. (Original) The system of claim 76 wherein the tasks are stored in at least one queue in memory.

80. (Original) The system of claim 76 wherein the tasks are stored in at least two queues in memory, one queue storing tasks whose attributes meet a condition and another queue storing tasks whose attributes do not meet the condition.

81. (Original) The system of claim 80 wherein the condition is that the attribute exceeds a threshold.

82. (Original) The system of claim 76 wherein the memory comprises two separate collections of memory, one collection of memory storing tasks whose attributes meet a condition and another collection of memory storing tasks whose attributes do not meet the condition.

83. (Original) The system of claim 82 wherein the two separate collections of memory are stored at the same memory address but at different time periods.

84. (Original) The system of claim 82 wherein the two separate collections of memory are at different memory addresses.

85. (Original) The system of claim 84 wherein the two separate collections of memory are in the same semiconductive device.

86. (Original) The system of claim 82 wherein the two separate collections of memory are in different semiconductive devices.

87. (Original) The system of claim 76 wherein the component includes a temperature sensor and the task is selected based on an output of the temperature sensor.

88. (Original) The system of claim 76 further comprising a second component capable of processing the tasks, wherein one or more of the tasks are selected for each component based on an expected temperature of each component after processing the task.

89. (Original) The system of claim 76 further comprising a scheduler that selects one or more of the tasks for the component.

REMARKS

The present amendment is responsive to the Office Action dated May 3, 2007. Claims 1, 24, 26-29, 33 and 53 have been amended. No new matter has been introduced by the amendments. Claims 12, 25, 32, 61 and 62 have been cancelled and their subject matter incorporated into claims 1, 24 and 53, respectively. Thus, claims 1-11, 13-24, 26-60 and 63-89 are again presented for the Examiner's consideration in view of the following remarks. The rejections will be addressed in view of the claims as presently presented.

As an initial matter, applicant would like to thank the Examiner for the telephone discussion with the undersigned regarding the instant application. Applicant notes that the Examiner-Initiated Interview Summary contains a typographical error as to the date of the interview, which was conducted on April 26, 2007 rather than April 26, 2008. Furthermore, to the best recollection of the undersigned, no preliminary amendment was discussed at that time. Rather, the Examiner provided applicant an opportunity to elect certain claims in view of an expected multiplicity rejection. In view of same and the Examiner's determination that three sets of claims would be examined, applicant provisionally elected claims 1-12, 24-34 and 53-63.

The multiplicity rejection was made in the instant Office Action pursuant to 35 U.S.C. § 112, ¶ 2 in view of M.P.E.P. § 2173.05(n). Applicant respectfully traverses the multiplicity rejection.

The Office Action quotes a portion of § 2173.05(n) in support of the rejection. However, a critical portion of this section of the M.P.E.P. is omitted. Specifically, "Undue multiplicity rejections based on 35 U.S.C. 112, second paragraphs, should be applied judiciously and should be rare."

In support of the rejection, the Office Action states that the 89 claims, including 11 independent claims, "contain limitations from multiple embodiments that are assorted into multiple different independent claims in an unclear manner and result in a 'maze of confusion.'" (Office Action, numbered section 4, p.3.)

Applicant has paid $1,930 in extra claim fees for the 89 claims as filed. The Office Action has not provided any concrete reason to justify the refusal to examine all the claims. This is contrary to case law, including case law cited by the M.P.E.P. concerning multiplicity. Specifically, it has been held that an Examiner should set forth "typical examples of substantial duplication or lack of material differentiation" among the claims, and that reliance on "mere opinion" is insufficient to support a multiplicity rejection. *In re Flint*, 411 F.2d 1353, 1356, C.C.P.A. 1969. In *Flint*, the Court reversed a multiplicity rejection even though the examiner did set forth typical examples of substantial duplication.

Because the Office Action fails to set forth any concrete examples of undue multiplicity as asserted, it appears that reliance was made solely on the mere opinion of the Examiner. Applicant respectfully submits that for at least these reasons the rejection is improper and should be withdrawn. In the alternative, applicant requests that the USPTO return the $1,930 paid in extra claim fees.

Claim 2 was rejected under 35 U.S.C. § 112, second paragraph. According to the Office Action, "Claim 2 contains apparent means for language, by stating 'temperature sensing means'. This does not comport to U.S. practice, as 'means for' claims are separate from method claims." (Office Action, numbered section 4, p.4.) Applicant respectfully traverses the rejection.

Claim 2 depends from claim 1, and recites "further comprising measuring the thermal attribute with a temperature sensing means." Independent claim 1 and dependent claim 2 are both method claims. As a limitation on the measuring step, claim 2 requires a temperature sensing means be used. This is a means plus function limitation that is to be interpreted under 35 U.S.C. § 112, ¶ 6. Nonetheless, it is a proper limitation in the claim.

The Office Action cites no statute, law, rule, regulation or even guideline in support of this rejection. In fact, the USPTO's own examining manual notes that there "are many situations where claims are permissively drafted to include a reference to more than one statutory class of invention." M.P.E.P. § 2173.05(p).

In view of the above, applicant submits that the "means for" limitation is properly used in method claim 2, and respectfully requests that the § 112, ¶ 2 rejection of this claim be withdrawn.

The Office Action rejected claims 1-12, 24-34 and 53-63 under 35 U.S.C. § 101 as being drawn to non-statutory subject matter. Applicant respectfully traverses the rejection.

Independent claim 1 has been amended to recite "A method of scheduling operations to be performed by a component having a thermal threshold comprising: providing a plurality of operations to be performed by the component; associating the operations with a thermal attribute, the thermal attribute representing a value related to a heat amount expected to be generated or incurred by the component during performance of the operations; determining a cooling attribute; scheduling the operations in an order of performance based on the thermal attribute and the cooling attribute so that the thermal threshold is not exceeded; and generating the order of performance for use in execution of the operations."

Independent claim 24 has been amended to recite "A processing system comprising: a computing device including a component; a plurality of operations to be performed by the component, at least some of the operations including a priority; at least one thermal attribute associated with the component and a selected one of the operations, the thermal attribute being indicative of a change in temperature of the component after performance of the selected operation; a plurality of priority queues, each priority queue including a first queue and a second queue, the first queue for storing a first set of the operations and the second queue for storing a second set of the operations; and a scheduler operable to assign at least one of the operations to the component depending on the thermal attribute."

And independent claim 53 has been amended to recite "A processing apparatus for processing operations associated with thermal attributes, comprising: a memory for storing a first operation and a second operation, the first operation having a thermal attribute exceeding an operating threshold, and the second operation having a thermal attribute not exceeding the operating threshold; and a plurality of processing devices for executing the first and second operations, at least a selected one of the processing devices comprising a sub-processing unit, and at least some of the processing devices having a thermal threshold and access to the memory; wherein, if the thermal threshold of the selected processing device is not exceeded, the selected processing device is operable to obtain the first operation from the memory for processing and to process the first operation, and if the thermal threshold of the selected processing device is exceeded, the selected processing device is operable to obtain the second operation from the memory for processing and to process the second operation, and wherein the memory comprises a local store in the sub-processing unit, and

the local store includes a first queue for managing the first operation and a second queue for managing the second operation."

Applicant submits that independent claims 1, 24 and 53 each recite a concrete, useful and tangible result and are thus clearly statutory under § 101. By way of example only, method claim 1 requires generating an order of performance. Processing system claim 24 requires a scheduler that is operable to assign at least one of the operations to the component depending on the thermal attribute. And processing apparatus claim 53 requires that if the thermal threshold is not exceeded, the selected processing device is operable to obtain a first operation from memory for processing and to process the first operation, and if the thermal threshold is exceeded, the selected processing device is operable to obtain the second operation from memory for processing and to process the second operation.

Furthermore, applicant notes that the Office Action states that "paragraph 74 of the instant application recites, 'The compiler may be implemented in software, firmware, hardware or a combination of the above.' Therefore the claimed limitations may be entirely software and are therefore non-statutory since 'software per se' does not fall under an approved statutory category." (Office Action, numbered section 3, pp.2-3.) This statement in the Office Action is wholly without merit. None of the claims in the application positively recite a compiler. Thus, the Office Action statement simply doesn't apply to the rejected claims. In addition, it is black letter law that it is improper to read limitations from the specification into the claims. (*See Teleflex, Inc. v. Ficosa N. Amer. Corp.*, 299 F.3d 1313 (Fed. Cir. 2002) ("limitations from the specification are not to be read into the claims.") (*Id.* at 1326)).

For at least the reasons presented above, applicant submits that independent claims 1, 24 and 53 are drawn to statutory subject matter, and that the subject dependent claims are likewise drawn to statutory subject matter. Thus, applicants request that the § 101 rejection be withdrawn.

Claims 1-12, 24-34 and 53-63 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Publication No. 2002/0065049 ("*Chauvel*"). Applicant respectfully traverses the rejection.

Claim 1 has been amended to include the subject matter of dependent claim 12, which has been cancelled. Thus, claim 1 now includes "determining a cooling attribute" and "scheduling the operations in an order of performance based on the thermal attribute and the cooling attribute so that the thermal threshold is not exceeded."

The Office Action asserts that paragraph 0008 of *Chauvel* teaches the cooling attribute limitations of former claim 12. However, what paragraph 0008 of the reference actually states is:

> [0008] In addition to overall energy savings, in a complex processing environment, the ability to dissipate heat from the integrated circuit becomes a factor. An integrated circuit will be designed to dissipate a certain amount of heat. If tasks (application processes) require multiple systems on the integrated circuit to draw high levels of current, it is possible that the circuit will overheat, causing system failure or errant behavior.

There is simply no teaching or suggestion in the cited portion of *Chauvel* or elsewhere of a cooling attribute as claimed. Thus, for at least this reason, applicant submits that independent claim 1 is patentable over *Chauvel*. Furthermore, claims 2-11 depend from claim 1 and contain all the limitations thereof. In view of the above, applicant requests that the

rejection of claim 1 and subject dependent claims 2-11 be withdrawn.

With regard to independent claim 24, this claim has been amended to recite, in part, "a plurality of operations to be performed by the component, at least some of the operations including a priority" and "a plurality of priority queues, each priority queue including a first queue and a second queue, the first queue for storing a first set of the operations and the second queue for storing a second set of the operations."

And with regard to independent claim 53, this claim has been amended to recite, in part, "wherein, if the thermal threshold of the selected processing device is not exceeded, the selected processing device is operable to obtain the first operation from the memory for processing and to process the first operation, and if the thermal threshold of the selected processing device is exceeded, the selected processing device is operable to obtain the second operation from the memory for processing and to process the second operation, and wherein the memory comprises a local store in the sub-processing unit, and the local store includes a first queue for managing the first operation and a second queue for managing the second operation."

Thus, claims 24 and 53 each refer to a dual queue configuration. In rejecting now cancelled claims 32 and 62, the Office Action asserted that *Chauvel* disclosed a plurality of priority queues. Specifically, the Office Action asserted that paragraph 0030 of *Chauvel* disclosed a dual queue configuration. *See* p.8 of the Office Action. However, what this paragraph of *Chauvel* actually states is:

> **[0030]** Referring to **FIGS. 1 and 2**, the operation of the multiprocessor system **10** is discussed. The multiprocessor system **10** can execute a variety of

> tasks. A typical application for the multiprocessor system **10** would be in a smartphone application where the multiprocessor system **10** handles wireless communication, video and audio decompression, and user interface (i.e., LCD update, keyboard decode). In this application, the different embedded systems in the multiprocessor system **10** would be executing multiple tasks of different priorities. Typically, the OS would perform the task scheduling of different tasks to the various embedded systems.

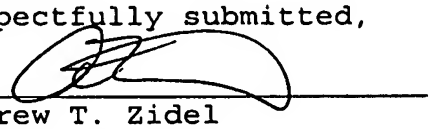
Applicant submits that nothing in the cited section or elsewhere in *Chauvel* teaches or suggests the first and second queues as claimed. In fact, *Chauvel* does not even mention queues at all in its disclosure. Thus, for at least these reasons, applicant submits that independent claims 24 and 53 are patentable over *Chauvel*. Furthermore, claims 26-31, 33-34, 54-60 and 63 depend from claims 24 and 53, respectively, and contain all the limitations thereof. In view of the above, applicant requests that the rejection of claims 24 and 53 and their subject dependent claims be withdrawn.

As it is believed that all of the rejections set forth in the Office Action have been fully met, favorable reconsideration and allowance are earnestly solicited.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he telephone applicant's attorney at (908) 654-5000 in order to overcome any additional objections which he might have. If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Dated: June 21, 2007

Respectfully submitted,

By 

Andrew T. Zidel
Registration No.: 45,256
LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK, LLP
600 South Avenue West
Westfield, New Jersey 07090
(908) 654-5000
Attorney for Applicant

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